

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 38

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte KURT HOFFMAN, HEINZ HERBST,
RUDOLF PFAENDNER,
HANS-JURGEN SANDER,
and FRANCISZEK SITEK

Appeal No. 2001-0131
Application No. 08/977,110

ON BRIEF

Before OWENS, WALTZ, and DELMENDO, Administrative Patent Judges.
DELMENDO, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on an appeal under 35 U.S.C. § 134 from the examiner's final rejection of claims 26 through 28, which are the only claims pending in the above-identified application.

The subject matter on appeal relates to a stabilizer mixture "suitable for the stabilization of a mixture of recycled plastics obtained from domestic, commercial and industrial waste or from recycled material collections, which mixture of

[recycled] plastics is polyolefin with minor amounts of polystyrene, polyester and poly(vinyl chloride)" (claim 26) and to a process for the stabilization of such a mixture of recycled plastics. Further details of this appealed subject matter are recited in representative claim 26 reproduced below:

26. A stabilizer mixture, suitable for the stabilization of a mixture of recycled plastics obtained from domestic, commercial and industrial waste or from recycled material collections, which mixture of plastics is polyolefin with minor amounts of polystyrene, polyester and poly(vinyl chloride), which comprises per 100 parts (by weight)

(A) as component a) 5-50 parts of the pentaerythrityl ester of β -(3,5-di-tert-butyl-4-hydroxy-phenyl)propionic acid, as component b) 5-50 parts of tris-(2,4-di-tert-butylphenyl)phosphite and as component c) 5-90 parts of calcium oxide;

(B) as component a) 5-50 parts of octadecyl ester of β -(3,5-di-tert-butyl-4-hydroxy-phenyl)propionic acid, as component b) 5-50 parts of tris-(2,4-di-tert-butylphenyl)phosphite and as component c) 5-90 parts of calcium oxide;

(C) as component a) 5-50 parts of 2,2'-ethyliden-bis-(4,6-di-tert-butylphenol), as component b) 5-50 parts of tris-(2,4-di-tert-butylphenyl)phosphite and as component c) 5-90 parts of calcium oxide;

(D) as component a) 10-30 parts of the octadecyl ester of β -(3,5-di-tert-butyl-4-hydroxy-phenyl)propionic acid, as component b) 10-30 parts of tris-(2,4-di-tert-butylphenyl)phosphite and as component c) 30-70 parts of calcium oxide; or

(E) as component a) 5-30 parts of the octadecyl ester of β -(3,5-di-tert-butyl-4-hydroxy-phenyl)propionic acid, as component b) 5-30 parts of tris-(2,4-di-tert-butylphenyl)phosphite, as component

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c) 5-40 parts of calcium oxide, as well as 10-50 parts of calcium stearate.

In addition to the appellants' admitted prior art, the examiner relies on the following prior art references as evidence of unpatentability:

Dexter et al. (Dexter)	3,285,855	Nov. 15, 1966
Boni	4,102,974	Jul. 25, 1978
Herman et al. (Herman)	4,420,580	Dec. 13, 1983
Christiansen et al. (Christiansen)	4,425,457	Jan. 10, 1984
Burns	4,443,572	Apr. 17, 1984
Dobreski et al. (Dobreski)	4,786,678	Nov. 22, 1988
Ueki et al. (Ueki)	4,826,735	May 2, 1989
Mehra et al. (Mehra)	4,826,897	May 2, 1989
Itamura et al. (Itamura)	5,389,709	Feb. 14, 1995

T.J. Henman, "Melt Stabilisation of Polypropylene," in Developments in Polymer Stabilisation-1 39-43, 80-83 (Gerald Scott, ed.) (publication date unknown).

Claims 26 through 28 on appeal stand rejected under 35 U.S.C. § 103(a) as unpatentable over Ueki or Mehra in view of Burns, Christiansen, Dexter, Boni, Itamura, Henman, Herman, and

Dobreski. (Examiner's answer of Apr. 25, 2000, paper 35, pages 4-13; Office action of Jan. 27, 1997, paper 19, pages 2-16.)

We reverse this rejection.

Under 35 U.S.C. § 103, the initial burden of establishing a prima facie case of obviousness rests on the examiner. In re Piasecki, 745 F.2d 1468, 1471-72, 223 USPQ 785, 787-88 (Fed. Cir. 1984). In this case, it is our judgment that the examiner has not met the initial burden of proof.

Ueki describes a polypropylene resin composition comprising 100 parts by weight of polypropylene, 0.05-1 part by weight of a metal salt of a fatty acid, and 0.01-1 part by weight of an oxide and/or hydroxide of an alkaline earth metal. (Column 2, lines 60-65.) Ueki further teaches that the composition may contain an antioxidant (e.g., 2,6-di-tert-butylp-cresol). (Column 3, lines 8-16; Example 1.) Thus, Ueki differs from the subject matter of the appealed claims not only in the recited component "b)" (i.e., the phosphite), as the examiner would have us believe (answer, page 6), but also in the recited component "a)."

Mehra describes a process for recovering and reusing scrap material of polyethylene terephthalate coated with a chlorine containing polymer comprising combining the scrap material with 5-25%, based on the weight of the scrap material, of a

particular ethylene copolymer and melt-blending the combined polymer materials at a temperature of about 260-310°C. (Column 1, line 58 to column 2, line 34.) Mehra further teaches the use of about 0.05-1.0%, based on the weight of the scrap material, of an additive such as calcium carbonate. (Column 3, lines 29-34.) Even assuming that calcium carbonate necessarily decomposes into calcium oxide as alleged by the examiner (answer, page 6), Mehra does not teach the recited components "a)" and "b)."

In an attempt to account for the differences between the subject matter of the appealed claims and Ueki or Mehra, the examiner relies on the teachings of Burns and Henman.

Specifically, the examiner states (answer, page 7):

Applicants' substitute use of tris(2,4 di-t. butyl phenyl) phosphite in lieu of the cyclic [sic] pentaerythritol diphosphite species which Burns used and which is [sic] an admitted melt processing stabilizer (specification at page 9, third and fourth paragraph[s]) would be obvious since Henman discloses (page 80, *ibid*) that a cyclic diphosphite such as characterizes Burns' pentaerythritol diphosphite compound, is less efficient than a non cyclic phosphite. While Burns utilizes the alkali metal oxide to stabilize the phosphite from producing burns in the virgin resin (col. 1, lines 1-31) whereas 1) Ueki utilizes the oxide to stabilize recycled olefinic resins from burns independent of the burns' sources (col. 3, lines 50-55) and 2) Mehra utilizes the oxide to inhibit, in recycled polyester blends, the discoloring degradative [sic] effects incurred by the presence of PVC in the blend, it is plausible to conclude that any one of or all of these multi

degradative modes is sufficient basis to utilize an alkali metal oxide, alone or with calcium stearate when one or more antioxidants comprising a phenolic antioxidant and [sic] an organic phosphite known to be suitable as melt stabilizers are present in olefin resins containing a polyester, polystyrene and PVC.

We cannot agree with the examiner's analysis. Burns discloses a stabilizer system for C₂ to C₈ olefin polymers comprising at least one pentaerythritol phosphite compound and at least one alkaline earth metal oxide (e.g., CaO). (Abstract; column 1, lines 35-39; column 2, lines 8-10.) According to Burns, the pentaerythritol phosphite compounds "provide excellent color stability as well as suppress odors" but are "very sensitive to moisture and consequently undergo degradation at high temperatures." (Column 1, lines 16-26.) Burns solves the degradation problem of pentaerythritol phosphite, which is said to be an otherwise excellent color stabilizer, by adding an alkaline earth metal oxide. (Column 1, lines 35-39.) Burns further teaches that a hindered phenol (e.g., octadecyl[(3-(3,5-di-t-butyl-4-hydroxyphenyl)]propionate) may also be included. (Column 2, lines 12-39.)

The present specification acknowledges that the recited component "b)" is known as a stabilizer for plastics. (Page 9, third and fourth paragraphs.)

Henman teaches in relatively general terms, that "both phosphite...and diphosphonite...are good melt stabilizers" but that "[t]he cyclic diphosphite...is much less efficient, probably due to a tendency towards formation of an acid phosphate by hydrolysis." (Page 80.)

The examiner, however, has not identified any specific motivation, suggestion, or teaching in the applied prior art that would have led one of ordinary skill in the art to replace the pentaerythritol phosphite described in Burns with the specific phosphite compound recited in the appealed claims. In this regard, Burns would have taught away from using any phosphite other than pentaerythritol phosphites, because Burns teaches that pentaerythritol phosphites in combination with other component(s), have "excellent color stability" as we discussed above.

In our view, it is only with the benefit of the appellants' own disclosure that the examiner has arrived at a conclusion of obviousness. In re Warner, 397 F.2d 1011, 1016, 154 USPQ 173, 177 (CCPA 1967) ("[W]here the invention sought to be patented resides in a combination of old elements, the proper inquiry is whether bringing them together was obvious and not, whether one of ordinary skill, having the invention before him, would find it obvious through hindsight to construct the invention from

elements of the prior art."); In re Rouffet, 149 F.3d 1350, 1359, 47 USPQ2d 1453, 1459 (Fed. Cir. 1998) ("[T]he Board must explain the reasons one of ordinary skill in the art would have been motivated to select the references and to combine them to render the claimed invention obvious."); In re Dembiczak, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999) ("[T]he best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references.").

None of the other applied prior art references remedy the fundamental deficiency in the examiner's analysis.

For these reasons, we hold that the examiner has not established a prima facie case of obviousness. We therefore reverse the examiner's rejection under 35 U.S.C. § 103(a) of all the appealed claims as unpatentable over Ueki or Mehra in view of Burns, Christiansen, Dexter, Boni, Itamura, Henman, Herman, and Dobreski.

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The decision of the examiner is reversed.

REVERSED

Terry J. Owens)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
Thomas A. Waltz)	
Administrative Patent Judge)	APPEALS AND
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Romulo H. Delmendo)	
Administrative Patent Judge)	

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JOANN VILLAMIZAR
CIBA SPECIALTY CHEMICALS CORP
PATENT DEPARTMENT
540 WHITE PLAINS RD
PO BOX 2005
TARRYTOWN NY 10591-9005